

## **Dr. Amin Kazemi-Beydokhti (PhD)**

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### **Educational background**

- **Ph.D.** in Chemical Engineering,  
**Ferdowsi University of Mashhad, Mashhad, Iran**
- **M.Sc.** in Chemical Engineering,  
**University of Tehran, Tehran, Iran**
- **B.Sc.** in Chemical Engineering,  
**Isfahan University of Technology, Isfahan, Iran**

## Work Experiences

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### Faculty member

- Dean of the Faculty and Associate Professor of Chemical Engineering, Hakim Sabzevari University, Sabzevar, Iran, **2014-present**.

### Process and Piping Engineer (2005- present)

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### Honors and Awards

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- Design and construction of the first combined heat and power (CHP) unit in the Middle East, Mashhad Municipality, Waste Management Organization, Mashhad, Iran, 2010
- Sabbatical at the University of Padova (Prof. Enzo Menna), Carbon nanotube nanofluid for the efficiency improvement in a CHP system: simulation and experimental investigation, Italy, 2014.
- Research opportunity at the University of Hamburg (Prof. Patrick Theato), Stimuli-responsive polymers, Germany, 2017.

## All publications

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### Book

**Design and modeling of industrial units with PDMS software**, A. Kazemi-Beydokhti, S. Rajabi, Kian rayane publications, 2009 (Written in Persian).

### ISI Journals

**2022** Mahmoud Farrokhi, Fatemeh Neyestani, **Amin Kazemi-Beydokhti**, Hamid Heydarzadeh-Darzi, " Simulation and Techno-Economic Analysis of the Integration of a Combined Heat and Power System in a Flare Gas Recovery Unit–Case Study: Tabriz Oil Refining Company (Northwest Iran)", Iranian Journal of Chemistry and Chemical Engineering, In press([https://www.ijcce.ac.ir/article\\_697968.html](https://www.ijcce.ac.ir/article_697968.html)).

**2022** Rasoul Shadnia, Mahsa Zarehparvar Shoja, **Amin Kazemi Beydokhti**, " The Effect of Dispersion Method of Nanotube Carbon on the Compressive Strength of Concrete", Journal of Concrete Structures and Materials, volume 7(1), pages 65-92(<https://doi.org/10.30478/jcsm.2022.346473.1272>).

- 2022** A. **Kazemi-Beydokhti**, H. Hassanpour-souderjani, " Physical and chemical surface modification of carbon nanotubes for adsorptive desulfurization of aromatic impurities in diesel fuel", Environmental Science and Pollution Research volume 29, pages33558–33571(<https://doi.org/10.1007/s11356-022-18576-6>).
- 2022** M. Mahdavinezhad, A. **Kazemi-Beydokhti**, A. Sanati, and M.R. Malayeri, " Efficacy of f-MWCNT-CTAB nano-complex in low-salinity seawater EOR operation", journal of petroleum science and engineering, Volume 208, Part C, 109532. (<https://doi.org/10.1016/j.petrol.2021.109532>)
- 2021** M. Mahdavinezhad, A. **Kazemi-Beydokhti**, A. Sanati, and M.R. Malayeri, " Surface modification of functionalized multi-walled carbon nanotubes for EOR using low salinity seawater", Journal of Petroleum Research, Volume 31, 3-16. (<https://dx.doi.org/10.22078/pr.2021.4458.3018>)
- 2021** **Amin Kazemi-Beydokhti**, Fatemeh Neyestani, Mahmoud Farrokhi, "Simulation of Flare Gas Recovery Unit Using Liquid Ring and Centrifugal Compressors", Nashrieh Shimi va Mohandesi Shimi Iran (NSMSI), Article in press ([https://www.nsmsi.ir/article\\_244562.html?lang=en](https://www.nsmsi.ir/article_244562.html?lang=en)).
- 2021** A **Kazemi-Beydokhti**, H Hassanpour Souderjani, "Oxidative desulfurization of petroleum products using decorated cobalt oxide on the surface of modified carbon nanotubes-ICHEC-1887", Iranian Journal of Chemical Engineering, 18(1), 36-45.( <https://dx.doi.org/10.22034/ijche.2021.130364>)
- 2020** Ali Asghar Shamabadi, Morteza Rezaee, **Amin Kazemi-Beydokhti**, "Microwave pressure sensor based on transmission response of a quarter-wavelength single stub microstrip line" Microwave and Optical Technology Letters (<https://doi.org/10.1002/mop.32386>).
- 2020** Rasoul Esmaeely Neisiany, Mohammad Saeid Enayati, **Amin Kazemi-Beydokhti**, Oisik Das and Seeram Ramakrishna, "Multilayered bio-based electrospun membranes: a potential porous media for filtration applications" Frontiers in Materials, 7(67) (<https://doi.org/10.3389/fmats.2020.00067>).
- 2019** **Amin Kazemi-Beydokhti**, Naeem Meyghani, Masoud Samadi, Seyed Hasan Hajiabadi, "Surface Modification of Carbon Nanotube: Effects on Pulsating Heat Pipe Heat Transfer" Chemical Engineering Research and Design, 152(30-35) (<https://doi.org/10.1016/j.cherd.2019.09.023>).
- 2019** **Amin Kazemi-Beydokhti**, Mahmoud Farrokhi, Enzo Menna, "Carbon nanotube nanofluid for the efficiency improvement in a CHP system: simulation and experimental investigation" Journal of Thermal Analysis and Calorimetry, pa:1-11 (<https://doi.org/10.1007/s10973-019-08857-7>).
- 2019** Seyed Hasan Hajiabadi, Hamed Aghaei, Mina Kalateh-Aghamohammadi, Ali Sanati, **Amin Kazemi-Beydokhti**, Feridun Esmaeilzadeh, "A comprehensive empirical, analytical and tomographic investigation on rheology and formation damage behavior of a novel nano-modified invert emulsion drilling fluid" Journal of Petroleum Science and Engineering, 181(106257) (<https://doi.org/10.1016/j.petrol.2019.106257>).

- 2019** Akhtari, J., R. Faridnia, H. Kalani, R. Bastani, M. Fakhar, H. Rezvan, and **A. K. Beydokhti** "Potent in vitro antileishmanial activity of a nanof ormulation of cisplatin with carbon nanotubes against Leishmania major." Journal of Global Antimicrobial Resistance 16: 11-16 (<https://doi.org/10.1016/j.jgar.2018.09.004>).
- 2019** **Amin Kazemi-Beydokhti**, "Surface modification of carbon nanotube nanofluids for higher thermal efficacy of plate and shell and tube heat exchangers", Nashrieh Shimi va Mohandesi Shimi Iran (NSMSI), 38(3), 243-252 ([https://www.nsmsi.ir/article\\_32592\\_en.html](https://www.nsmsi.ir/article_32592_en.html)).
- 2018** **Amin Kazemi-Beydokhti**, Seyed Hasan Hajiabadi, "Rheological investigation of smart polymer/carbon nanotube complex on properties of water-based drilling fluids" Colloids and Surfaces A: Physicochemical and Engineering Aspects, 556, 23-29 (<https://doi.org/10.1016/j.colsurfa.2018.07.058>).
- 2018** **Amin Kazemi-Beydokhti**, Seyed Hasan Hajiabadi; Ali Sanati, "surface modification of carbon nanotubes as a key factor on rheological characteristics of water-based drilling muds" Iranian Journal of Chemistry and Chemical Engineering, 27(4) (<https://dx.doi.org/10.30492/ijcce.2018.28219>).
- 2016** **Amin Kazemi-Beydokhti**, Saeed Zeinali Heris, Mahmoud Reza Jaafari, "Investigation of different methods for cisplatin loading using single-walled carbon nanotube" Chemical Engineering Research and Design, 112(2), 56-63 (<https://doi.org/10.1016/j.cherd.2016.06.006>).
- 2016** **A. Kazemi Beydokhti**, S. Zeinali Heris, and M.R. Jaafari, "Thermal investigation and comparison of two medical nanofluid containing anticancer drug cisplatin." NANOSCALE 3(1) p. 39-45 ([http://nanomeghyas.ir/article\\_46547.html?lang=en](http://nanomeghyas.ir/article_46547.html?lang=en)).
- 2016** **Amin Kazemi-beydokhti**, Hamed Azizi Namaghi, Mohammad Ali Haj Asgarkhani, Saeed Zeinali Heris, "Modeling and Optimization of Stability and Thermal Conductivity of Tin Dioxide Nanofluid. A Comparison Between Statistical Method and an Artificial Neural Network", Brazilian Journal of Chemical Engineering, 32 (4), 903-17 (<https://doi.org/10.1590/0104-6632.20150324s00003518>).
- 2015** **Amin Kazemi-Beydokhti**, Saeed Zeinali Heris, Mahmoud Reza Jaafari, "Experimental investigation of thermal conductivity of medical nanofluids based on functionalised single-wall carbon nanotube and conjugated cisplatin" Micro & Nano Letters, 5(10) , 241-247 (<https://doi.org/10.1049/mnl.2014.0593>).
- 2014** **Amin Kazemi-Beydokhti**, Saeed Zinali heris, Mohsen Tafaghodi, Mahmood Reza jaafari. "Microwave functionalized single-walled carbon nanotube as nanocarrier for the delivery of anticancer drug cisplatin: in vitro and in vivo evaluation" Journal of Drug Delivery Science and Technology, 24 (6), 572-578 ([https://doi.org/10.1016/S1773-2247\(14\)50121-9](https://doi.org/10.1016/S1773-2247(14)50121-9)).
- 2014** **A. KAZEMI-BEYDOKHTI**, S. ZEINALI HERIS, M. SHARIATY-NIASSAR, A. A. HAMIDI, N. MOGHADAM "Experimental Investigation of Parameters Affecting Nanofluids Effective Thermal Conductivity" Chemical Engineering Communications, 1(201), 593–611 (<https://doi.org/10.1080/00986445.2013.782291>).

- 2013** Amin Kazemi-beydokhti, Hamed Azizi namaghi, Saeed Zinali heris. "Identification of the Key Variables on Thermal Conductivity of CuO Nanofluid by a Fractional Factorial Design Approach" Numerical Heat Transfer: B, 64: 480–495 (<https://doi.org/10.1080/10407790.2013.831674>).
- 2012** Amin kazemi-beydokhti , Saeed Zeinali Heris. "Thermal optimization of combined heat and power (CHP) systems using nanofluids" Energy 44: 241-2 (<https://doi.org/10.1016/j.energy.2012.06.033>).
- 2012** S. Zeinali Heris, A. Kazemi-Beydokhti, S.H. Noie, S. Rezvan, "A numerical study on convective heat transfer of different nanofluids through square cross-section duct in laminar flow" Engineering Applications of Computational Fluid Mechanics, 6(1): 1–14 (<https://doi.org/10.1080/19942060.2012.11015398>).
- 2010** Sajjad Habibzadeh, Amin Kazemi-Beydokhti, Abbas Ali Khodadadi, Yadollah Mortazavi, Sasha Omanovic, Mojtaba Shariat-Niassar, "Stability and thermal conductivity of nanofluids of tin dioxide synthesized via microwave-induced combustion route" Chemical Engineering Journal, (2) 471-478 (<https://doi.org/10.1016/j.cej.2009.11.007>).

### Conferences

- 2020** Hasan Hasanpur, Amin Kazemi-Beydokhti, " Oxidative desulfurization of petroleum products using oxidizing, cobalt oxide on surface modified carbon nanotubes", The 11th International Chemical Engineering Congress & Exhibition --IChEC 2020, Fuman, Iran.
- 2020** Hasan Hasanpur, Amin Kazemi-Beydokhti, Navid Qalenoie " Thermal simulation of distribution transformers for energy optimization and higher efficiency", The 11th International Chemical Engineering Congress & Exhibition --IChEC 2020, Fuman, Iran.
- 2020** Amin Kazemi-Beydokhti, Delaram Aliakbari, " The importance of surface modification of carbon nanohorns as a new nano-platform for targeted drug delivery", 3<sup>rd</sup> Nanomedicine & Nanosafety Conference, Tehran, Iran.
- 2019** Rasoul Esmaeely Neisiany, Mohamad Reza Naeimi rad, Amin Kazemi-Beydokhti," Insight into the Future of the Self-Healing Cementitious Composites", 5th National and 1th International Conference On Cement Industry and Oncoming Horizon, Tehran, Iran.
- 2019** Amin Kazemi-Beydokhti," Improvement of cement composite using surface modified carbon nanotubes", 5th National and 1th International Conference On Cement Industry and Oncoming Horizon, Tehran, Iran.
- 2018** Amin Kazemi-Beydokhti, Seyed Hasan Hajiabadi, Ali Mashhadi" Thermo and rheological importance of oily nanofluids in improving the energy efficiency of transformers", 12th International Energy Conference (IEC), Tehran, Iran.

**2018** Seyed Hasan Hajiabadi, **Amin Kazemi-Beydokhti**,” Performance of silver nanoparticles in the management of energy required to recycle the waste of drilling operation”, 12th International Energy Conference (IEC), Tehran, Iran.

**2017** **Amin Kazemi-Beydokhti**, Ali Khoshshima” The importance of surface modification of carbon nanotubes in the separation and thermal conductivity of nanofluid” 4th National Conference on Separation Science and Engineering, Babol, Iran.

**2017** **Amin Kazemi-Beydokhti**, Mohammad Mahdey Khosravi” Evaluation of various nanocatalysts of refinery catalytic reforming unit to improve separation and octane number of reformat” 4th National Conference on Separation Science and Engineering, Babol, Iran.

**2017** Ali Khoshshima **Amin Kazemi-Beydokhti**, “Thermodynamic Modeling of Micro-Emulsions Based on Nuclear Alkaline Alkanol Surfactants Using the PC-SAFT Equation” 4th National Conference on Separation Science and Engineering, Babol, Iran.

**2017** **Amin Kazemi-Beydokhti**,” The importance of using stimuli-responsive polymers in the targeted drug delivery of cancer drugs” 3rd International Nastaran symposium 2017, Mashhad, Iran.

**2016** **Amin Kazemi-Beydokhti**,” Application of nanofluids in thermal optimization of CHP systems”, 11th International Energy Conference (IEC), Tehran, Iran.

**2016** **Amin Kazemi-Beydokhti**, Ali Khoshsiam,” Thermal investigation of medical nanofluid containing anticancer drug cisplatin”, 2nd International Conference & 3rd National Conference on New Technologies Application in Engineering, Mashhah, Iran.

**2016** Ali Khoshsiam, **Amin Kazemi-Beydokhti**, ”Investigation of nanostructure microemulsion of biofuel systems”, 2nd International Conference & 3rd National Conference on New Technologies Application in Engineering, Mashhah, Iran.

**2016** Seyed Hasan Hajiabadi; Ali Sanati, **Amin Kazemi-Beydokhti**, “Investigation and comparison of different methods on biodiesel gas” 8<sup>th</sup> national conference on Environmental Engineering, Tehran, Iran.

**2014** **Amin Kazemi-Beydokhti**, Saeed Zeinali Heris, Mahmoud Reza Jaafari,” Comparison of three different protocols for the synthesis of one formulation based on functionalized single-wall carbon nanotube and conjugated cisplatin”, 5th International Congress on Nanoscience & Nanotechnology (ICNN2014), Tehran, Iran.

**2009** **Kazemi-Beydokhty. A.**, Shariaty-Niassar, M, Hamidi, A.,” Investigation of Effective Parameters on thermal conductivity of nanofluid”, 5th Nanotechnology students Conference, Tehran, Iran.

**2009** **Kazemi-Beydokhty, A.**, Shariati-Niyassar, M., Hamidi, A. A., “A Comparative Thermal Survey on TiO<sub>2</sub> and SnO<sub>2</sub> Nanofluids' properties”, the 6th international chemical engineering congress and exhibition, Kish, Iran.

**2009** Habibzadeh, S., Khodadadi, A.A., **Kazami-Beydokhty, A.**, Hosseinpour, N., Mortazavi, Y., “Colloidal Stability of Nanofluids of Tin Dioxide Synthesized via microwave-induced Combustion Route”, 8th World Congress of Chemical Engineering, Canada.

## Industrial Research Plans

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➤ Design and optimization of heat exchangers with CNT nanofluid technology, University of Tehran and National Iranian Oil Refining & Distribution Company, Tehran, Iran, 2009-2012. ([https://www.nsmsi.ir/article\\_32592\\_en.html](https://www.nsmsi.ir/article_32592_en.html))

➤ Targeted drug delivery of cisplatin using functionalized carbon nanotubes for cancer therapy, Ferdowsi University of Mashhad and Ministry of Health and Medical Education, Tehran, Iran, 2012-2015

(<https://doi.org/10.1016/j.cherd.2016.06.006>,  
<https://doi.org/10.1049/mnl.2014.0593>,  
[https://doi.org/10.1016/S1773-2247\(14\)50121-9](https://doi.org/10.1016/S1773-2247(14)50121-9),  
[http://nanomeghyas.ir/article\\_46547.html?lang=en](http://nanomeghyas.ir/article_46547.html?lang=en))

➤ Design and construction of thermal simulator of electricity transmission and distribution oil transformers, Hakim Sabzevari University, Sabzevar, Iran, 2016-2017.

<http://staff.hsu.ac.ir/en/persons/?perid=101000>

➤ Oil nanofluid for higher thermal efficacy of transformer, Hakim Sabzevari University, Sabzevar, Iran, 2016-2017.

<http://staff.hsu.ac.ir/en/persons/?perid=101000>

## Computer skills

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### Engineering Software:

- PDMS
- HYSYS
- ASPEN
- PVElite
- WAVE
- Autocade

### Programming:

- MATLAB
- C++